

CLAIMS

What is claimed is:

1. A circuit for exchanging communications via a transmission line, including:

a means for coupling the transmission line on the one hand to a transmit line to provide outgoing communications to the transmission line, and to a receive line, to receive incoming communications from the transmission line; and

a detector for detecting a predetermined start-of-communication signal wherein the detector is connected to the transmit line.

2. The circuit of claim 1, including a modem having a nominal operating mode and a low-consumption operating mode, an output and an input of the modem being respectively connected to the transmit and receive lines, the detector being connected to switch the modem from its low-consumption mode to its nominal mode when the detector detects said start-of-communication signal.

3. The circuit of claim 2, wherein first and second amplifiers are respectively interposed between the modem output and the transmit line, and between the modem input and the receive line, the amplifiers each having a nominal mode and a low-consumption mode, the detector being connected to switch the first and second amplifiers from the low-consumption mode to the nominal mode when the detector detects said predetermined signal.

4. The circuit of claim 3, wherein the modem, the detector, and the first and second amplifiers belong to a same integrated circuit.

5. The circuit of claim 3, wherein the transmit line is a twin-wire line and the first amplifier includes two output terminals, each connected to a wire of the transmit line, the

circuit including a switch for short-circuiting the two output terminals of the first amplifier when the first amplifier is in a low-consumption mode.

6. The circuit of claim 5, wherein the modem, the detector, the first and second amplifiers and the switch belong to a same integrated circuit.

7. The circuit of claim 2, wherein the modem and the detector belong to a same integrated circuit.

8. The circuit of claim 7 wherein the detector input is connected to the transmit line via a voltage divider.

9. The circuit of claim 1 wherein the coupling means includes a transformer having a primary winding connected to the transmission line and first and second secondary windings respectively connected to the transmit and receive lines.

10. A circuit for exchanging communications via a transmission line, comprising:

a modem with a signal input and a signal output;

a transmit line coupled to the signal output of the modem and structured to transmit signals from the modem to the transmission line, the transmit line having a node;

a receive line coupled to the signal input of the modem and structured to receive signals directed from the transmission line to the modem;

a coupler coupled to the transmission line, transmit line, and receive line structured to pass signals from the transmit line to the transmission line and to pass signal from the transmission line to the receive line; and

a detector connected to the transmit line at the node, the detector being structured to detect start-of-communication signal received from the transmission line via the coupler.

11. The circuit of claim 10 wherein the modem has a nominal operating mode and a low-consumption operating mode, the detector being connected to switch the modem from the low-consumption mode to the nominal mode in response to detecting the start-of-communication signal.

12. The circuit of claim 10, further comprising a first amplifier interposed between the modem output and the transmit line and a second amplifier interposed between the receive line and the modem input, the amplifiers each having a nominal mode and a low-consumption mode, the detector being connected to switch the first and second amplifiers from the low-consumption mode to the nominal mode in response to detecting the start-of-communication signal.

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14. The circuit of claim 12 wherein the transmit line includes first and second wires and the first amplifier includes first and second output terminals connected respectively to the first and second wires, the circuit further comprising a switch that short-circuits the output terminals of the first amplifier when the first amplifier is in the low-consumption mode.

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15. The circuit of claim 10 wherein the modem and the detector belong to a same integrated circuit.

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16. The circuit of claim 10, further comprising a voltage divider connected between the detector and the node of the transmit line.

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17. The circuit of claim 10 wherein the coupler means includes a transformer having a primary winding connected to the transmission line and first and second secondary windings respectively connected to the transmit and receive lines.

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A method exchanging communications via a transmission line, the method comprising:

transmitting communication signals on a transmit line from a modem to the transmission line when the modem is in a nominal mode;

receiving a start-of-communication signal from the transmission line to the transmit line when the modem is in a low-consumption standby mode; and

detecting the start-of-communication signal on the transmit line.

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The method of claim ~~18~~, further comprising switching from the standby mode to the nominal mode in response to detecting the start-of-communication signal.

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The method of claim ~~18~~ wherein the transmit line includes first and second wires, the method further comprising shorting together the first and second wires of the transmit line during the standby mode.

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The method of claim ~~20~~, further comprising un-shortening the first and second wires in response to detecting the start-of-communication signal.

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The method of claim ~~18~~, further comprising:
powering up a first amplifier in response to detecting the start-of-communication signal, the first amplifier being connected between a signal output of the modem and the transmit line; and

powering up a second amplifier in response to detecting the start-of-communication signal, the second amplifier being connected between the receive line and a signal input of the modem.